**Remarks:**

Claims 1, 3, 4, 6, 9-12, and 14 have been amended, Claims 15-18 have been cancelled, and new Claims 22-24 have been added. Claims 1, 3-14 and 19-24 are pending in the application. Favorable reconsideration of the application is respectfully requested.

## Claim rejections - 35 U.S.C. Section 112

Claim 14, which stands rejected under 35 U.S.C. Section 112, first paragraph, as failing to comply with the written description requirement, has been amended to recite the pulse rate as four Hertz. The Examiner stipulates in the Office Action that the instant specification as originally filed teaches sending pulses at four Hertz. Therefore, the withdrawal of the rejection of Claim 14 under 35 USC 112, first paragraph is respectfully requested.

## Claim rejections - 35 U.S.C. Section 102

Claims 1, 4-7 and 19-20 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Laverty et al. (U.S. Patent No. 5,508,510). Laverty et al. ('510) discloses a system which uses a pulsed infrared sensor to control fluid flow. The system includes an impulse sensor using infrared diodes to emit pulses of light energy which, when reflected by an object with the field of view of the sensor, are detected by a receiver of the impulse sensor for operating a solenoid or the control. The impulse sensor includes a low battery indicator circuit and provides for range and dwell adjustments. The

Examiner refers to an optional portable remote control device shown in FIG. 10A for detecting battery status of the infrared sensor. However, while FIG. 10A shows a remote control device, there is no mention of the use of such remote control device for battery status detection. Rather, Laverty et al. ('510) teaches use of the remote control device only for use in conjunction with the impulse sensor for range and dwell adjustments as stated in column 17, lines 39-43, and the optional remote control device shown in FIG. 10A indicates signal transmission only from the remote control device to the impulse sensor. Moreover, Laverty et al. ('510) does not disclose transmitting a user-initiated signal from the portable controlling device to the impulse sensor to cause interruption in the generation of pulses by the transmitter or the transmission of information, such as status of the battery charge, by that transmitter back to the portable controlling device. Rather, the impulse sensor shown by Laverty et al. ('510) includes status lights (column 13, lines 5 and 13) that are lit under the control of a microcontroller to indicate battery state of charge.

Claim 1 distinguishes over Laverty, Jr. et al. ('510) by reciting the fixed device having a normal mode, in which the first infrared transmitter transmits ranging pulses, and a communication mode, allowing bidirectional communication between the handheld device and the first device, second control logic in the handheld device configured to cause an Attention Signal to be emitted from the second infrared transmitter in response to an initiation command provided by a user, the Attention Signal being received by the first infrared receiver, and first control logic in the fixed device, configured to

discontinue transmission of ranging pulses of the first infrared transmitter upon detection of the Attention Signal, whereupon the fixed device changes from the normal mode to the communication mode, thereby allowing an optical communication link to be initiated between the first infrared transmitter and the second infrared receiver and between the second infrared transmitter and the first infrared receiver, and the first control logic causes first infrared transmitter to transmit signals representing device-specific data of the first device to the second infrared receiver of the handheld device over the optical communication link.

Similarly, method Claim 4 distinguishes over Laverty, Jr. et al. by reciting the fixed device as having a normal mode in which the first infrared transmitter transmits ranging pulses and a communication mode, allowing bidirectional communication between the handheld device and the first device; and recites emitting a user-initiated Attention Signal from the second infrared transmitter within the detection range of the first infrared receiver; receiving the Attention Signal with the first infrared receiver; discontinuing the transmission of the ranging pulses from the first infrared transmitter; establishing an optical data link between the first infrared transmitter and the second infrared receiver and between the second infrared transmitter and the first infrared receiver; and causing the first infrared transmitter to transmit signals representing device-specific data of the first device to the second infrared receiver over the optical data link.

Laverty et al. ('510) does not disclose a bidirectional optical communication link between the impulse sensor and the portable remote control device, allowing the

transmission of information, such as status of the battery charge, and wherein such communication link includes the transmitter that produces range pulses. Rather, the impulse sensor shown by Laverty et al. ('510) indicates conditions, such as battery state of charge, at the impulse controller using status lights in the impulse controller. Also, while Laverty et al. ('510) discloses the use of the remote for signaling the impulse sensor to change operating parameters of the impulse sensor, Laverty et al. ('510) does not indicate that impulse sensor transmits operating information the remote control device. Laverty et al. ('510) shows the optional remote in FIG. 10A as providing signal transmission only from the remote control device to the impulse sensor.

In view of the distinctions noted and for all the reasons indicated, it is submitted that claims 1 and 4 clearly distinguish over and are patentable over Laverty et al. ('510). Claims 5-7 and 19-20, which are dependent upon Claim 1, are believed to be patentable along with parent Claim 1.

**Claim rejections - 35 U.S.C. Section 103**

Claims 1, 4, 7-11 and 13 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Lange et al. (U.S. Patent No. 4,916,613) in view of Laverty, Jr. et al. (U.S. Patent No. 5,769,120). Lange et al. disclose a system in which a transmitter unit communicates with an associated transmitter and receiver unit, referred to as a reception unit. The transmitter unit includes a control unit that controls an infrared transmitter/receiver pair to produce detection pulses for detecting approaching of a user

and state pulses which are transmitted over an optical communication link to the reception unit for evaluation. The reception unit causes an indication device to indicate the state of charge of the battery. The reception unit also operates in programming and test modes to control the control circuit. The system as disclosed by Lange et al., operates without intervention by an operator. In the Office Action, the Examiner states that Lange et al. does not teach explicitly that the transmitter and receiver unit is a handheld device.

Claim 1 is directed to a system for facilitating communication between fixed and handheld devices using infrared communication, and distinguishes over Lange et al. by reciting second control logic in the handheld device configured to cause an Attention Signal to be emitted from the second infrared transmitter in response to an initiation command provided by a user, the Attention Signal being received by the first infrared receiver, and first control logic in the fixed device, configured to discontinue transmission of ranging pulses of the first infrared transmitter upon detection of the Attention Signal, whereupon the fixed device changes from the normal mode to the communication mode, thereby allowing an optical communication link to be initiated between the first infrared transmitter and the second infrared receiver and between the second infrared transmitter and the first infrared receiver, and the first control logic causes first infrared transmitter to transmit signals representing device-specific data of the first device to the second infrared receiver of the handheld device over the optical communication link.

Claim 4 is directed to a method for communicating between fixed and handheld devices using infrared communication, and distinguishes over Lange et al. by reciting the steps of emitting a user-initiated Attention Signal from the second infrared transmitter within the detection range of the first infrared receiver; receiving the Attention Signal with the first infrared receiver if the second infrared transmitted in the handheld device is located within detection range of the first infrared receiver; discontinuing the transmission of the ranging pulses from the first infrared transmitter; establishing an optical data link between the first infrared transmitter and the second infrared receiver and between the second infrared transmitter and the first infrared receiver; and causing the first infrared transmitter to transmit signals representing device-specific data of the first device to the second infrared receiver over the optical data link. In view of the distinctions noted, it is submitted that claims 1 and 4 clearly distinguishes over Lange et al.

Moreover, it is submitted that claims 1 and 4 are not obvious in view of Lange et al. and Laverty, Jr. et al. ('120) because the cited references teach away from the modification suggested by the Examiner as to use of a handheld device for interrogating rinsing systems in different rooms in a hotel or office building. The system disclosed by Lange et al. provides automatic operation without operator intervention, emitting range pulses, sending status signals to the reception unit for evaluation so there is no need to interrogate the unit or provide a remote control unit for such purpose.

Laverty, Jr. et al. ('120), which is a divisional application of Laverty, Jr. et al. ('510) discussed above, teaches an impulse sensor to which can be added an optional portable remote control device, shown in FIG. 13, for use in conjunction with the impulse sensor for range and dwell adjustments (column 127, lines 43-44), adding to the basic impulse sensor the capability of changing operating parameters. Thus, the impulse sensor disclosed by Laverty, Jr. et al. ('120) is a self-contained unit, as far as range pulse generation and detection, along with operating condition indication are concerned. In this regard, the remote control device is shown clearly in FIG. 13 as transmitting to a receiver of the impulse sensor, independently of the separate transmitter/receiver pairs used to provide ranging signals. Laverty, Jr. et al. ('120) does not disclose transmission from the impulse sensor to the remote control and clearly shows the addition to the impulse sensor of a separate receiver for receiving signals from the remote control device. Thus, modifying Lange et al. with the teachings of Laverty, Jr. et al. ('120) would render Lange et al. inoperative by removing the bidirectional transmission between the transmitter unit and the reception unit of Lange et al.

In view of the distinctions noted and for all the reasons indicated, it is submitted that claims 1 and 4 clearly distinguish over and are patentable over Lange et al. and Laverty et al. ('120). Claims 7-11 and 13, which are dependent upon Claim 1, are believed to be patentable along with parent Claim 1.

Claim 3 stands rejected under 35 U.S.C. Section 103(a) as being unpatentable over Laverty, Jr. et al. ('510) in view of Bertsekas et al. ("Data Networks", Second Edition, by D. Bertsekas et al Prentice-Hall, 1992,. pp. 64-67).

Claim 3 distinguishes over Laverty, Jr. et al. ('510) by reciting a fluid dispensing device having a normal mode in which the second transmitter transmits ranging pulses and a communication mode in which the second transmitter transmits signals to the handheld device. Broadcast control logic located in the fluid dispensing device is configured to respond to an initiation command provided by a user to emit from the second transmitter a Broadcast Signal indicating an error relating to an operating condition of the fluid dispensing device, and receiving control logic located in the handheld control device is configured to identify the Broadcast Signal following its receipt by the first detector.

Laverty, Jr. et al. ('510) neither discloses nor suggests transmission of signals from the impulse sensor to the remote control device or the use of a user-generated command to cause the transmitter to emit a signal indicative of an operating condition of the fluid dispensing device. Bertsekas et al., cited for disclosing error handling in data transmission, does not relate to fluid dispensing systems or controls for such systems, and as such, does not suggest modification of what is disclosed by Laverty, Jr. et al. ('510) that would anticipate Claim 3. Therefore, Claim 3 is believed to be patentable over Laverty, Jr. et al. ('510) and Bertsekas et al..

Claims 12 and 21 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Laverty, Jr. et al. ('510) in view of Foster (U.S. Patent No. 6,125,482). Claims 12 and 21 are dependent upon Claim 1 which distinguishes over Laverty, Jr. et al. ('510) for the reasons given above. Foster, cited for disclosing transmitting past operation data over a communication link, does not suggest modification of what is disclosed by Laverty, Jr. et al. that would anticipate Claim 1. Therefore, Claims 12 and 21 are believed to be patentable along with parent Claim 1.

Claim 14 stands rejected under 35 U.S.C. Section 103(a) as being unpatentable over Laverty, Jr. et al. ('510) in view of admitted prior art. Claim 14 is dependent upon Claim 1 which distinguishes over Laverty, Jr. et al. ('510) for the reasons given above.

**New Claims**

New Claims 22-24, which have been added, are all dependent upon Claim 1 and are believed to be allowable along with Claim 1. Claim 22 further distinguishes over the prior art applied to Claim 1 by reciting that the handheld device is selectively operable to provide a plurality of user selected functions, including sending a status request, sending a set command and sending a program command

Claim 23 further distinguishes over the prior art applied to Claim 1 by reciting that the duration of the Attention signal is greater than the duration of a normal pulse cycle for the ranging pulses.

Claim 24 further distinguishes over the prior art applied to Claim 1 by reciting that the initiation command provided by the user causes the second control logic to initiate a scanning function to search for Broadcast signals.

**Summary**

In summary, Claims 1, 3-14 and 19-24 are believed to be allowable for all of the reasons given above. These claims remain pending following entry of this Amendment, and are in condition for allowance at this time. As such, Applicants respectfully request entry of the present Amendment and reconsideration of the application, with an early and favorable decision being solicited. Should the Examiner believe that the prosecution of the application could be expedited, the Examiner is requested to call Applicants' undersigned attorney at the number listed below.

Respectfully submitted:

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